

REMARKS

Claims 1 - 18 are pending in the present application. By this Amendment, claims 1, 17 and 18 have been amended, claim 12 has been canceled and new claims 19 - 28 have been added. No new matter has been added. It is respectfully submitted that this Amendment is fully responsive to the Office Action dated July 17, 2003.

As To The Merits:

As to the merits of this case, the Examiner sets forth the following rejections:

1. Claims 1, 9, 11 and 18 stand rejected under 35 U.S.C. §102(e) as being anticipated by **Anderson** (U.S. Patent No. 6,177,958);
2. Claims 2 - 7 and 13 stand rejected under 35 U.S.C. §103(a) as being unpatentable over **Anderson** (U.S. Patent No. 6,177,958) in view of **Ohta** (U.S. Patent Publication No. 2001/0000969);
3. Claims 8 and 14 stand rejected under 35 U.S.C. §103(a) as being unpatentable over **Tsai** (U.S. Patent No. 5,309,243) in view of **Anderson** (U.S. Patent No. 6,215,523);
4. Claim 10 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Tsai (U.S. Patent No. 5,309,243) in view of **Anderson** (U.S. Patent No. 6,177,958);
5. Claim 12 stands rejected under 35 U.S.C. §103(a) as being unpatentable over **Anderson** (U.S. Patent No. 6,177,958) in view of **Ikeda**; and
6. Claims 15 - 17 stand rejected under 35 U.S.C. §103(a) as being unpatentable over **Anderson** (U.S. Patent No. 6,177,958) in view of **Anderson** (U.S. Patent No. 6,215,523).

Each of these rejections is respectfully traversed.

Independent Claim 1:

Amended claim 1 is characterized in that it includes “normal taking control means based on a normal taking mode for generating image pickup signals corresponding to one frame from said image pickup means, by one taking of image based on normal AE information” as a taking control means thereof. Support for these amendments are based on the description in p31, lines 7-9 and in p37, lines 12-19 of the present specification.

Anderson ‘958 cited by the Examiner, on the other hand, contains a disclosure about the taking modes respectively corresponding to “manual wide dynamic range taking mode for generating a wide dynamic range, synthesized image on the basis of object information (or information set for the image taking) as selected by the user” and “automatic wide dynamic range taking mode for generating a wide dynamic range, synthesized image automatically on the basis of object information (or information set for the image taking) without selection by the user” and also contains a disclosure concerning the selecting of one of these modes to effect control of image taking in accordance with the selected mode (*see* Fig. 11).

Regarding the normal taking mode, as a manner close to such mode, Anderson ‘958 also shows the manner where capture manager 1410 takes a single image at step 1420 when override event 1419 is selected.

In such case, however, the taking control manner is not like that disclosed concerning the first embodiment of the present application as: “If the system is set to the

normal taking mode where SL image taking is not to be performed, image pickup signals obtained by one taking of image on the basis of a normal AE information are . . . recorded. . . :

Accordingly, Anderson '958 contains neither a disclosure nor suggestion concerning "having a normal taking control means based on a normal taking mode for generating image pickup signals corresponding to one frame from said image pickup means, by one taking of image based on normal AE information" which is a characteristic of amended claim 1.

Independent Claims 2 and 3

Independent claims 2 and 3 each call for means for displaying as a suitability determining information of the synthesized image generating process at least one information out of information based on previously taken image data, information obtained before the taking of image, and information set on the image pickup apparatus before the taking of image that is required in determining whether a suitable wide dynamic range, synthesized image can be obtained.

With regard to this feature, the Examiner relies on paragraph 0136 of the secondary reference of Ohta which discloses that various different types of warning messages can be displayed to a user. However, Ohta's warning messages are not concerned with suitability determining information in determining whether a suitable wide dynamic range, synthesized image can be obtained.

Further, claim 3 calls for the additional feature of displaying a result of determination at the determination means. The secondary reference of Ohta fails to disclose this feature as well.

Independent Claim 9

With regard to claim 9, Anderson '958 fails to disclose a means for correcting exposure amount of said image signals corresponding to a plurality of frames of different exposure amounts, and display means for displaying operation status of the means for correction exposure amount.

For example, as disclosed on page 54 of the present specification, exposure amounts for actual image data signals are corrected and the operating status (53, 54 of Fig. 12) for the correction is displayed.

In Anderson '958, while exposure amounts for obtaining images maybe adjusted (see column 8), such reference is absent any teaching with regard to correcting exposure amount of image signals corresponding to a plurality of frames of different exposure amounts.

Further, while Anderson '958 discloses in lines 51 - 59 of column 6, with reference to Fig. 6(c), that warning devices can be used to notify the user that the SSC

mode is in operation and may cause a delay, such warnings fail to constitute a displayed operation status of the means for correcting exposure amount, as called for in claim 9.

Independent Claim 10

Claim 10 calls for means for detecting motion of an object image, means for correcting amount detected at the motion detection means is within an allowable range for correction, and display means for displaying operation status of the motion amount correction means.

For example, as discussed on pages 56 and 57 of the present application, when a detected amount of motion is relatively small and determined at CPU 8 as within an allowable range for correction, the motion is correction and the generation processing of synthesized image is performed.

Further, as shown in Fig. 13A, the operation status of the motion amount correction means is displayed to a user.

With regard to claim 10, the Examiner asserts that "Tsai also discloses a means of detecting motion in an image and correcting the motion if found to be in an allowable range for correction."¹

However, according to **Tsai**:

¹Please see, lines 18 - 19, page 10 of the Action.

If, for example, the first pixel is found to be underexposed ($N < 25$), the electronic data processing unit 300 retrieves the data for the first pixel of the $N+1$ exposure range image and compares the data with a preselected value to determine whether the $N+1$ data is invalid due to subject motion, i.e., the $N+1$ data should represent an exposure level of twice the exposure level of the N data, thus the $N+1$ data must be less than twice the level to which the N data was compared to determine underexposure ($N+1 < 50$). If the $N+1$ data conforms to the specified criteria, the electronic data processing unit 300 stores the $N+1$ data as the first pixel of the reconstructed image. If the $N+1$ data does not conform to the specified criteria, it is a clear indication that the data for the first pixel of the $N+1$ image does not correspond to the data for the first pixel of the N image due to subject motion.²

That is, **Tsai** fails to detect the motion of an object and instead determines if the $N+1$ data is invalid by comparing it with a preselected value.

Independent Claim 11

Anderson '958 fails to disclose a normal taking control means based on a normal taking mode for generating image pickup signals corresponding to one frame from the image pickup means.

Further, Anderson '958 fails to disclose the additional features of claim 11 concerning a display means for displaying ON/OFF status of the generation processing of wide dynamic range, synthesized image on the basis of the taking mode set at the mode setting means.

²Please see, lines 16 - 32, column 5 of **Tsai**.

For example, as discussed on pages 58 - 59 of the present specification with reference to Figs. 14 - 16, by displaying the ON/OFF status of the generation processing of SL synthesized image, it is readily possible to confirm whether the generation processing of SL synthesized image will actually be performed or whether it has actually been performed.

Further, while Anderson '958 discloses in lines 51 - 59 of column 6, with reference to Fig. 6(c), that warning devices can be used to notify the user that the SSC mode is in operation and may cause a delay, such warnings fail to constitute a means for displaying ON/OFF status of the generation processing of wide dynamic range, synthesized image on the basis of the taking mode set at the mode setting means, as called for in claim 11.

Independent Claims 7 and 13

Each of the independent claims 7 and 13 call for suitability determination means for determining whether information obtained as conditions of generation processing for the generation of wide dynamic range, synthesized image is the information suitable for the generation processing of wide dynamic range, synthesized image.

With regard to this feature, the Examiner relies on paragraph 0136 of the secondary reference of Ohta which discloses that various different types of warning messages can be displayed to a user. However, Ohta's warning messages are not concerned with determining whether information obtained as conditions of generation

processing for the generation of wide dynamic range, synthesized image is the information suitable for the generation processing of wide dynamic range, synthesized image.

Further, claim 7, calls for the additional feature of displaying "inconsistency" when the taking mode set at said mode setting means and the result of determination made at said suitability determination means are not suitable to each other, as for example shown in Figs. 10A, 10B of the present application.

The secondary reference of Ohta fails to disclose this feature as well.

Claim 13 calls for the additional feature of directing a change in the setting of parameter of said information or in the setting of taking mode or directing a retake when the taking mode set at said mode setting means and the result of determination made at said suitability determination means are not suitable to each other, as for example discussed on pages 63 and 64 of the present application.

The secondary reference of Ohta fails to disclose this feature as well.

Independent Claim 8

Independent claim 8 calls for a means for displaying an exposure amount ratio of the image signals corresponding to a plurality of frames of different exposure amounts.

For example, as shown in Fig. 11A, and as discussed on page 52 of the present application, an exposure amount ratio 1:4, also represented in a bar graph 51, is displayed to a user.

With regard to this feature, the Examiner argues that Tsai discloses storing exposure ratios in framestore 200 of Fig. 2 and that the secondary reference of Anderson '523 discloses a review mode in figure 8 wherein each image is enlarged with accompanied identifier information 708.

However, the Examiner's characterization of Tsai is misleading. That is, according to Tsai framestore 200 is divided into five storage sections 210-250 that store images exposed at the $N+1$, $N+1/2$, N , $N-1$ and $N-1/2$ exposure levels with each image containing nine pixels (1-9).

In other words, Tsai does not need to store exposure ratios since each of the five storage sections 210-250 correspond to a respective exposure level.

Independent Claim 14

Claim 14 calls for means for displaying brightness information of a desired portion of object together with an image of the object.

For example, as discussed on pages 64 - 65 of the present application and as shown in Fig. 22 A, brightness information of desired portions, i.e., house 1, the person's

head 2, the person's torso 3, are corresponding displayed on a bar graph along with an image of the object.

However, while Tsai may disclose that framestore 200 is divided into five storage sections 210-250 that store images exposed at the $N+1$, $N+1/2$, N , $N-1$ and $N-1/2$ exposure levels with each image containing nine pixels (1-9), Tsai is totally silent with regard displaying brightness information of a desired portion of object together with an image of the object, as called for in claim 14.

In addition, while Anderson '523 may disclose a review mode in Fig. 8, Anderson '523 is also is totally silent with regard displaying brightness information of a desired portion of object together with an image of the object, as called for in claim 14.

Independent Claim 15:

Claim 15 is characterized in "comprising: means for designating a plurality of desired regions of a displayed image; means for obtaining luminance information of the regions designated by the designating means; and means for adjusting exposure amounts of said plurality of images so as to achieve suitable luminance levels of the respectively obtained luminance information at the time of generating a wide dynamic range, synthesized image."

Anderson '958 cited by the Examiner, on the other hand, contains a disclosure concerning the extracting of luminance information from each of the plurality of divided

regions to detect a high contrast from taken image data divided into a plurality of desired regions as shown in Fig. 8B.

Further, Anderson '523 contains a disclosure pertaining to the fact that the user can enter a review mode so as to observe a large number of images 700 on LCD display region as shown in Fig. 8 to decide whether taken image is acceptable or not.

However, neither a disclosure concerning “means for designating a plurality of desired regions of a displayed image” nor a disclosure concerning “means for obtaining luminance information of the regions designated by the designating means” is contained in these cited documents. There is no disclosure, nor suggestion pertaining to the fact that “means for adjusting exposure amounts of a plurality of images” adjusts “exposure amounts of said plurality of images so as to achieve suitable luminance levels of the respectively obtained luminance information at the time of generating a wide dynamic range, synthesized image.”

Accordingly, even when Anderson '523 is incorporated into Anderson '958, none of the characteristics of claim 15 of the present application, *i.e.*, neither “means for designating a plurality of desired regions of a displayed image”, nor “means for obtaining luminance information of the regions designated by the designating means”, nor “means for adjusting exposure amounts of said plurality of images so as to achieve suitable luminance levels of the respectively obtained luminance information at the time of

generating a wide dynamic range, synthesized image” is far from obvious to those skilled in the art.

Since claim 15 is fully patentable as described above, claim 16, a dependent claim of claim 15, is thought to be patentable likewise.

Independent Claim 17:

Amended claim 17 is characterized in that it includes “means for setting the exposure amount of each of a plurality of images of different exposure amounts to a desired exposure amount considered by the user.” Support for the amendment of claim 17 is based on the description in p67, line 20 to p68, line 9 of the present specification.

In Anderson ‘958, though there is a disclosure concerning the setting of exposure amount of image automatically in accordance with information from AE, neither a disclosure nor suggestion is made concerning “means for setting the exposure amount of each of the plurality of images of different exposure amounts to a desired exposure amount considered b the user” which is a characteristic of amended claim 17. Similarly in Anderson ‘523, though there is a disclosure concerning displaying, neither a disclosure nor suggestion is made concerning “means for setting the exposure amount of each of a plurality of images of different exposure amounts to a desired exposure amount considered by the user” which is a characteristic of amended claim 17.

Accordingly, even when Anderson '523 is incorporated into Anderson '958, “means for setting the exposure amount of each of a plurality of images of different exposure amounts to a desired exposure amount considered by the user”, which features amended claim 17, is thought to be not easily conceivable at all to those skilled in the art.

Independent Claim 18

Claim 18 is characterized in that it includes “means for deciding exposure amounts for normal image taking from the synthesized output information.” Support for the amendment of claim 18 is based on the description of the thirteenth embodiment in page 68, line 10 to page 71, line 5 of the specification.

In other words, it is to acquire a wide dynamic range image information in AE operation at the time of normal image taking so as to decide exposure amount for the normal image taking from such image information.

As a result, a remarkable advantage that “the AE operation of an optimum, suitable value thereby becomes possible by one operation, making it necessary to perform a feedback control at the time of normal image taking” is obtained in the so-called video AE system where an output information of image pickup device is used to change aperture stop or shutter speed.

Anderson '958, on the other hand, contains a disclosure about AE device concerning AE operation for making the respective exposure amounts of high-luminance image and low luminance image suitable to obtain a wide dynamic range image.

The AE device disclosed in Anderson '958, however, is different from the AE device of claim 18 of the present case in both its subject to be controlled and its advantage. In Anderson '958, thus, there is no disclosure, nor suggestion concerning “means for deciding exposure amounts for normal image taking from the synthesized output information” which is a characteristic of claim 18.

Naturally, then, there is no disclosure, nor suggestion concerning the remarkable advantage of “the AE operation of an optimum, suitable value thereby becomes possible by one operation, making it necessary to perform a feedback control at the time of normal image taking” which is an advantage of claim 18 of the present case.

Newly Added Claims 19 – 28:

Newly added claims 19-21 correspond to the twelfth embodiment and its modification disclosed on page 66, line 7 to page 68, line 9 of the specification.

Newly added claims 22-27 are the claims correspond to the first and second embodiments disclosed in page 25, line 23 to page 43, line 5 of the specification.

Newly added claim 28 is the claim corresponds to the twelfth embodiment disclosed in page 66, line 7 to page 68, line 9 of the specification

The added new independent claim 22 is characterized in that it includes “an automatic wide dynamic range taking control means for automatically controlling ON/OFF of generation processing of a wide dynamic range, synthesized image by determining based on object information or information set for the image taking whether it is suitable for wide dynamic range image taking or not.”

Anderson '958 cited by the Examiner, on the other hand, contains a disclosure about the taking modes respectively corresponding to “manual taking mode for generating a wide dynamic range, synthesized image as selected by the user” and “taking mode for automatically generating a wide dynamic range, synthesized image based on contrast information without selection by the user” and also contains a disclosure concerning the selecting of one of these modes to control image taking in accordance with the selected mode (*see* Fig. 11).

In Anderson '958, however, there is no disclosure, nor suggestion concerning “an automatic wide dynamic range taking control means for automatically controlling ON/OFF of generation processing of a wide dynamic range, synthesized image by determining based on object information or information set for the image taking whether it is suitable for wide dynamic range image taking or not” which is a characteristic of the added new claim 22.

Likewise, neither a disclosure nor suggestion concerning the above described characteristic of the newly added claim 22 of the present case is made in any of the other cited documents.

Accordingly, new independent claim 22 and new claims 23-27 dependent thereon are presumed to be fully patentable.


For at least the foregoing reasons, it is believed that this application is now in condition for allowance, which action, is requested at an early date. If, for any reason, it is believed that this application is not in condition for allowance, Examiner is encouraged to contact the Applicants' undersigned attorney at the telephone number below to expedite the disposition of this case.

Application No.: 09/395,935
Amendment dated December 17, 2003
Reply to Office Action of July 17, 2003

In the event that this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 50-2866.

Respectfully submitted,

WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP

By: 
Thomas E. Brown
Reg. No.: 44,450
Attorney for Applicant
Tel: (202) 822-1100
Fax: (202) 822-1111

Attachments: Petition for Extension of Time w/fee
Change of Correspondence Address

TEB/rer